

### IN THE CLAIMS

1 (currently amended): A method for the manufacture of a piezoelectrical multilayer ~~aeuator~~ actuator comprising applying thin coats of a piezoceramic material as green leaves, to at least one internal electrode such that the green leaves are stacked one on the other in a block and the internal electrodes are brought alternately to opposite faces of the actuator ~~aeuator~~ where they are connected together by an external electrode to form an actuator ~~aeuator~~ green body; sintering the ~~aeuator~~ actuator green body; abrasively shaping the sintered green body; applying ground metallization for the external electrode; applying an area of said actuator ~~aeuator~~ to be insulated by thick-layer method a paste comprising an inorganic, low-sintering material or material mixture and an organic binder system, and subjecting the body coated with said paste to a firing process wherein the layer thickness after sintering is between 1 and 40  $\mu\text{m}$ , preferably between 2 and 20  $\mu\text{m}$  or between 4 and 15  $\mu\text{m}$ , wherein the firing on of the insulating layer takes place together with the firing on of the external electrode and forms a continuous layer.

2 (previously presented): The method according to claim 1, wherein the coating step is performed after sintering and shaping and the coating is fired on at temperatures between 400 and 1200°C.

3 (canceled)

4 (currently amended): A method for the manufacture of a piezoelectrical multilayer actuator ~~aeuator~~ comprising applying thin coats of a piezoceramic material as green leaves, to at least one internal electrode such that the green leaves are stacked one on the other in a block and the internal electrodes are brought alternately to opposite faces of actuator ~~aeuator~~ the where they are connected together by an external electrode to form an actuator ~~aeuator~~ green

body; sintering the actuator ~~aeuator~~ green body; abrasively shaping the sintered green body; applying ground metallization for the external electrode; applying an area of said actuator ~~aeuator~~ to be insulated by thick-layer method a paste comprising an inorganic, low-sintering material or material mixture and an organic binder system, and subjecting the body coated with said paste to a firing process wherein the layer thickness after sintering is between 1 and 40  $\mu\text{m}$ , preferably between 2 and 20  $\mu\text{m}$  or between 4 and 15  $\mu\text{m}$ , wherein the application of the insulating layer takes place after the polarization of the actuator ~~aeuator~~ and, by drying at 20 - 260°C a covering of all electrodes of one polarity is formed, but no covering of the electrodes of the other polarity and thus a continuous coating is not formed.

5 (currently amended) The method according to claim 1, wherein the low-sintering material is PZT or is identical with the actuator ~~aeuator~~ material.

6 (previously presented): The method according to claim 1, wherein the thick layer paste comprises a glass and an organic binder system.

7 (currently amended): The method according to claim 1, wherein the thick layer paste is applied to the green actuator ~~aeuator~~ body and is sintered together therewith.

8 (previously presented): The method according to claim 1, wherein the thick layer is applied by silk-screen printing.

9 (previously presented): The method according to claim 1, wherein the thick layer is applied by rubber-stamping or rolling.

10 (previously presented): The method according to claim 1, wherein the thick layer is applied by plasma spraying.

11 (currently amended): The actuator ~~aeuator~~ manufactured by the method of claim 1.

- 12 (currently amended): A system comprising the actuator ~~aeuator~~ according to claim 11, operatively connected to an injection valve.
13. (previously presented) The method according to claim 1, wherein the coating step is performed after sintering and shaping and the coating is fired on at temperatures between 600 and 1000°C.
14. (previously presented) The method according to claim 1, wherein the coating step is performed after sintering and shaping and the coating is fired on at temperatures between 650 and 850°C.
- 15 (currently amended): The actuator ~~aeuator~~ manufactured by the method of claim 4.
- 16 (currently amended): A system comprising the actuator ~~aeuator~~ according to claim 15, operatively connected to an injection valve.